

DOCKET NO. 160557  
 Serial No. 10/717,343  
 Response to Office Action dated Sept. 21, 2004

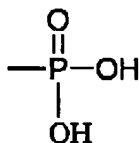
PATENT

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in this patent application.

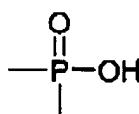
- 1) (Cancelled)
- 2) (Currently Amended) A formulation according to Claim 23 4, wherein the hectorite is selected from the group consisting of calcium hectorite and sodium hectorite.
- 3) (Currently Amended) The formulation according to Claim 23 4, wherein the hectorite is sodium hectorite.
- 4) (Cancelled)
- 5) (Currently Amended) The paint formulation according to Claim 23 4, wherein the phosphonate additive is selected from the group consisting of:

(a) Phosphonic acid compounds that contain at least two moieties having the structure:



and salts thereof,

(b) Phosphinic acid compounds that contain at least two moieties having the structure:



and salts thereof, and

- (c) Compounds which may form phosphonic or phosphinic acids, or salts thereof, under the conditions of use in making these paint formulations, and
- (d) The lithium, sodium, potassium, calcium or magnesium salts of the compounds described under (a), (b) and (c).
- 6) (Currently Amended) The paint formulation according to Claim 23 4, further comprising an alkali swellable-rheological additive.

DOCKET NO. 160557

PATENT

Serial No. 10/717,343

Response to Office Action dated Sept. 21, 2004

7) (Currently Amended) The formulation according to Claim 23 + wherein the hectorite is sodium hectorite and the phosphonate compound is selected from the group consisting of:

- a) Diphosphonic acids of formula  $R^1R^2C(PO(OH)_2)_2$ ,
- b) Diphosphonic acids of formula  $R^1-CR^2(PO(OH)_2)-R^3-CR^2PO(OH)_2-R^5$ ,
- c) Phosphonic acids with general formula  $R^1R^4C=C(PO(OH)_2)_2$ , and
- d) The lithium, sodium, potassium, calcium and magnesium salts of the compounds described under a), b) and c),

where  $R^1$  can be selected from the group comprising H, a linear or branched alkyl, alkene, hydroxyalkyl, aminoalkyl, hydroxyalkene, aminoalkene with 1 to 22 carbon atoms or an aryl, hydroxyaryl, aminoaryl with 6 to 22 carbon atoms;  $R^2$  can be selected from the group comprising  $R^1$  and OH;  $R^3$  is an alkyl with 0 to 22 carbon atoms; and both  $R^4$  and  $R^5$  can be selected from the group  $R^1$ .

8) (Currently Amended) The formulation according to Claim 23 +, wherein the phosphonate additive is selected from the group consisting of 1-hydroxyethylene-1,1-diphosphonic acid sodium salt or an ester thereof.

9) (Original) The formulation according to Claim 8, wherein the hectorite is sodium hectorite.

10) (Currently Amended) A paint formulation of Claim 23 comprising: a) wherein the hectorite clay comprises about 0.1 to 10 wt.% hectorite clay; and the b) one or more phosphonate additives comprise about 0.5 to 6 wt.% based on the weight of the hectorite clay of one or more phosphonate additives; and e) water.

11) (Original) The paint formulation according to Claim 10, wherein the hectorite is selected from the group consisting of calcium hectorite and sodium hectorite and the formulation contains a rheological additive.

12) (Original) The paint formulation according to Claim 10, where the phosphonate additive is selected from the group consisting of a 1-hydroxyethylene-1,1-diphosphonic acid, a salt thereof and an ester thereof.

13) (Currently Amended) A method of making a an automotive metallic paint formulation comprising:

- a) treating a mixture of beneficiated or unbeficiated natural hectorite and water with one or more phosphonate additives; and

DOCKET NO. 160557

PATENT

Serial No. 10/717,343

Response to Office Action dated Sept. 21, 2004

b) adding ~~such~~ the treated mixture to ~~the~~ a paint formulation which comprises metallic flakes.

14) (Currently Amended) A-The method of Claim 13 making a paint formulation, comprising:

a) treating a mixture of hectorite and water with the one or more phosphonate additives to form a clay slurry; and

b) drying the resultant treated mixture; and

c) adding ~~such~~ the dried treated mixture to the paint formulation which comprises the metal flakes.

15) (Currently Amended) The method according to Claim 14, wherein the natural hectorite is sodium hectorite and the hectorite clay and phosphonate additive are added as a mixture.

16) (Currently Amended) A-The method of Claim 13 making a paint formulation, comprising:

a) ~~treating a mixture of hectorite and water with one or more phosphonate additives to form a clay slurry; and~~

b) ~~drying the treated mixture; and~~

c) adding ~~such~~ the treated mixture to the paint formulation as a pregel in water.

17) (Currently Amended) A-The method according to Claim 16, wherein the phosphonate additive is 1-hydroxyethylene-1,1-diphosphonic acid tetra sodium salt.

18) (Cancelled)

19) (Cancelled)

20) (Cancelled)

21) (Cancelled)

22) (Currently Amended) The metallic paint formulation of Claim 23 ~~is~~ further comprising an alkali swellable rheological additive.

23) (Currently Amended) An automotive metallic paint formulation comprising:

a) at least 1% of a ~~chemical selected from the group consisting of~~ beneficiated or unbeneficiated natural hectorite clay and ~~synthetic~~ hectorite clay; and

b) from about 0.5 to 15 wt.%, based on the weight of the clay, of one or more phosphonate additives;

c) metallic flakes selected from the group consisting of aluminum, copper and mixtures thereof; and

d) water.

DOCKET NO. 160557

Serial No. 10/717,343

Response to Office Action dated Sept. 21, 2004

PATENT

24) (Currently Amended) ~~The A metallic paint formulation of Claim 23 wherein the clay, phosphonate and water were added as a pregel during the batch making prepared by the process of Claim 16.~~

25) (Currently Amended) ~~The metallic paint formulation method of Claim 13 23 wherein the clay, phosphonate and water were are added as a pregel or as a post-correction additive.~~

26) (Original) The metallic paint formulation of Claim 23 further comprising an alkali swellable chemical.

27) (Currently Amended) ~~The A metallic paint formulation of claim 23 wherein the clay and the phosphonate additive were added to the formulation as a mixture prepared by the process of claim 13.~~

28) (Currently Amended) ~~A The metallic paint formulation of claim 23 in the form of a sprayable metallic paint comprising:~~

- a) ~~at least 1% of a chemical selected from the group consisting of hectorite clay and synthetic hectorite clay, and~~
- b) ~~from about 0.5 to 15 wt.%, based on the weight of the clay, of one or more phosphonate additives;~~
- c) ~~aluminum metallic flakes; and~~
- d) ~~water.~~

29) (Currently Amended) ~~The sprayable metallic paint formulation of Claim 28 prepared by a process wherein the clay, phosphonate and water were added as a pregel during the batch making process.~~

30) (Currently Amended) ~~The sprayable metallic paint formulation of Claim 28 prepared by a process wherein the clay, phosphonate and water were added as a pregel as a post-correction additive.~~

31) (Currently Amended) ~~The sprayable metallic paint formulation of Claim 28 further comprising an alkali swellable chemical.~~

DOCKET NO. 160557

PATENT

Serial No. 10/717,343

Response to Office Action dated Sept. 21, 2004

32) (Currently Amended) The sprayable metallic formulation of claim 28 prepared by a process wherein the clay and the phosphonate additive were added to the formulation as a mixture.

33) (New) The paint formulation of Claim 5 wherein the phosphonate additive is selected from lithium, sodium, potassium, calcium and magnesium salts of the compounds described under (a), (b) and (c).